

REMARKS

Claim rejections under 35 USC 112

Claims 8-36 were rejected under 35 USC 112, second paragraph, as being indefinite or incomplete. Each basis of rejection is now discussed in order (and is identified by the number and optionally the letter with which it was identified in the Final Office Action).

3.a. In claims 8, 16, and 26, “M” and “N” have been indicated as being indefinite because a definite range is not specified. Per the Examiner’s suggestion, these claims have been amended to recite “numbered 1 to M” and/or “numbered 1 to N”.

3.b. In claim 16, “coupling the N hosts to one another, and the M managed characteristic application computer programs” has been indicated as being indefinite because it is not clear in the claim language whether the computer programs are coupled and connected to the hosts as well as to the other computer programs, or just to the hosts. Applicant has amended claim 16 so that it recites: “a network operatively coupling the N hosts to one another, and operatively coupling the M managed characteristic application computer programs to one another . . . the M managed characteristic application computer programs also operatively coupled to the N hosts via the network”. Applicant submits that this amendment overcomes the rejection.

4. In claims 16 and 26, the Examiner has indicated that there is a lack of an essential relationship between the first, second, and third functions. In particular, the Examiner indicates that the third function has to interact with the first and the second functions to perform. Applicant has amended claims 16 and 26 so that the third function is recited as “interacting with the first and the second functions.” Furthermore, the Examiner indicates that there is a lack of an essential relationship between the first, second, and third function groups of claim 26. Applicant has likewise amended claim 26 so that the third function group is recited as “interacting with the

first and the second function groups.” Applicant submits that the Examiner’s concerns are now overcome.

Claim rejections under 35 USC 103

Claims 1, 3, and 9 have been rejected under 35 USC 103(a) as being unpatentable over Bhattal (2002/0064126) in view of Du (6,041,306), whereas claims 2, 4-8, and 10-15 have been rejected under 35 USC 103(a) as being unpatentable over Bhattal. Claims 16-36 have been rejected under 35 USC 103(a) as being unpatentable over Bhattal in view of Du, and further in view of Dimitroff (6,742,020). Claims 1, 2, 8, 16, and 26 are independent claims, from which the remaining of the claims rejected ultimately depend. Applicant asserts that the independent claims 1, 2, 8, 16, and 26 are patentable over Bhattal in view of Du, over Bhattal alone, or over Bhattal in view of Du and further in view of Dimitroff, such that all of the pending claims are patentable. There are at least three independent and separate reasons why all the independent claims are patentable, as are now discussed in detail.

First, however, it is noted that Applicant particularly discusses Bhattal as the primary reference relied upon by the Examiner in rejecting the claims under 35 USC 103(a), such that the claimed invention is not obvious over Bhattal alone, Bhattal in view of Du, or Bhattal in view of Du and further in view of Dimitroff. Furthermore, Applicant duplicates the primary portion of Bhattal relied upon by the Examiner, paragraphs [0014]-[0016] thereof, here for ease of reference.

According to a preferred embodiment of the invention, recovery from failures of outgoing message transmissions is achieved as follows. Each queue manager in a queue sharing group has access to a shared outgoing-message queue. Each of these queue managers (or its communication manager component) is provided with a copy of a definition of a sender channel between the shared queue and a destination queue manager, such that each queue manager in the queue sharing group (or its communication manager component) is able to start an instance of the channel. Only a single channel instance is allowed to be active at any one time. Certain state information for a channel is stored whenever the channel is active, and a subset of that state information is held in shared access

storage so as to be available to any queue manager within the queue sharing group. If the queue manager which is using a channel experiences a failure, another queue manager or communication manager component in the queue sharing group uses the state information held in shared access storage together with its copy of the channel definition to start a new instance of the channel. Thus, a queue manager continues message transmission on behalf of the queue manager which experienced the failure.

In a second aspect, the invention provides a data communications system comprising: a data storage repository accessible by any one of a set of communication managers; a set of communication managers, each adapted to start an instance of a communication channel for transmitting data from the data storage repository to a remote communication manager, and each adapted to transmit data via said communication channel; a storage repository for storing current state information for the communication channel, the storage repository being accessible by any one of the set of communication managers; wherein the set of communication managers are responsive to a failure affecting a first communication manager of said set which has a first active instance of a communications channel, to start a second instance of the channel using the stored current channel state information and to resume transmission of data from the data storage repository to the remote communication manager via the second channel instance.

In a third aspect, the invention provides a computer program comprising computer readable program code for controlling the operation of a data communication apparatus on which it runs to perform the steps of a method of managing communications between a set of communication managers and a remote communication manager, the method comprising: starting a communication channel between a first communication manager of the set and the remote communication manager for transmitting data from a data storage repository to the remote communication manager, the data storage repository being accessible by any one of the set of communication managers; storing state information for the communication channel in a storage repository accessible by any one of the set of communication managers (which may be the same data storage repository from which data is transmitted); in response to a failure affecting the first communication manager, a second one of the set of communication managers using the stored channel state information to start a new channel instance and resuming transmission of data from the data storage repository to the remote communication manager via the new channel instance.

(Emphasis added)

Bhattacharya does not disclose shutting down (a copy of) an application computer program

Claims 1 and 2 are limited to a resource management device that generates signals, including a signal to *shut down* a copy of an application computer program, and claims 8, 16, and 26 are similarly limited to the *shutting down* of a copy of an application program. However, as recited above, Bhattacharya does not disclose the *shutting down* of an application computer program. Bhattacharya discloses *starting* an instance of a channel, and thus could be considered at best to disclose generating a signal to start an instance of a channel. The channels of Bhattacharya are never indicated as being shut down after being started up. Because Bhattacharya does not disclose shutting down a copy of an application program, the claimed invention is not disclosed within Bhattacharya alone or in combination with any other reference.

Indeed, there is no motivation within Bhattacharya to include purposefully shutting down one of its channels. Bhattacharya is concerned with what happens when a communication manager, and thus the channel associated with the communication manager, fails. In such instance, Bhattacharya says that what you can do is have a different communication manager start up a new channel, and resume communications with this new channel. Bhattacharya does not suggest it is ever desirable to *generate a signal to shut down* the channel (i.e., to purposefully shut down the channel), only that a channel may fail.

Bhattacharya does not disclose moving (a copy of) an application computer program

Claims 1 and 2 are limited to a resource management device that generates signals, including a signal to *move* a copy of an application computer program, and claims 8, 16, and 26 are similarly limited to the *moving* of a copy of an application program. However, as recited above, Bhattacharya does not disclose the *moving* of an application computer program. Bhattacharya discloses *starting* an instance of a channel only. The channels of Bhattacharya are never indicated as being *moved*. Because Bhattacharya does not disclose moving a copy of an application program, the

claimed invention is not disclosed within Bhattal alone or in combination with any other reference.

Indeed, there is no motivation within Bhattal to move one of its channels. A channel is defined between the communication managers of two hosts. The channel does not need *moving*, because if two other communication managers desire to communicate, a new channel instance is simply started, rather than moving an existing channel. Therefore, Bhattal does not suggest it is ever desirable to *move* any of its channels.

Bhattal does not disclose starting up (a copy of) an application computer program based on performance-oriented information

As noted in the previous office action response, claims 1 and 2 are limited to a resource management device that generates signals, including a signal to starting up a copy of *an application computer program*, and claims 8, 16, and 26 are similarly limited to the starting up of a copy of *an application computer program*. However, Bhattal does not disclose the starting up of *an application computer program*, but rather discloses starting an instance of a *communication channel* only. As also noted in the previous office action response, though, a channel is not an application computer program, but rather “is a one-way communication link between two queue managers.” (Bhattal, para. [0034]) Thus, in the previous office action response, Applicant had argued that Bhattal discloses starting up a channel, not an application computer program as in the claimed invention.

In response, the Examiner in the Final Office Action noted that “the control of the channel is part of the application program,” such that “the channel can’t be started unless the application for it is started, for example.” (P. 14, para. 42) However, this argument fails to consider all the limitations of the claims *as a whole*. For instance, the claims are specifically limited to the starting up of an application program *based on various information*, such as performance of all copies of the application program (claims 1, 2, and 8), quality of service requirements (claims 16 and 26), and so on. For sake of convenience only, this various

information is referred to as shorthand in this office action response as “performance-oriented information.”

Bhattal, however, never discusses the starting up of *its application programs* and application queues (identified as 20, 40, 30' in FIG. 1 by the Examiner) *based on such performance-oriented information*. Rather, Bhattal only discusses the starting up of a *channel* based on performance-oriented information, such as specifically the starting up of a channel when a previous one has failed. The application programs and the application queues of Bhattal have already been started, and in turn *they* start a *channel* based on performance-oriented information. Therefore, Bhattal, either alone or in combination with one or more other references, does not disclose the claimed invention.

In other words, in considering the claimed invention relative to the prior art, Applicant emphasizes that the claimed invention must be considered as a whole. By comparison, the statement in the Final Office action suggests the following reasoning process:

1. Bhattal discloses starting up of channels based on performance-oriented information
2. The channels are created by application computer programs and application queues.
3. These programs and queues must be started up in order to start up the channels.
4. *Thus, –* Bhattal thus discloses starting up of application computer programs, as in the claimed invention.

This reasoning process is flawed because it distorts what Bhattal is actually disclosing. Bhattal’s application computer programs are *never started up based on performance-oriented information*, as in the claimed invention. Therefore, even though Bhattal’s application computer programs do have to be first started up before these programs start up channels based on performance-oriented information, the application computer programs *themselves* are *not* started up based on performance-oriented information, as in the claimed invention – only the *channels* are.

The reasoning process in the Final Office Action is thus flawed because it finds *A* (starting up channels) based on *B* (performance-oriented information) in Bhattal, and then improperly substitutes *C* (starting up application computer programs) for *A* (starting up channels)

to read on the claimed invention, which is *C* (starting up application computer programs) based on *B* (performance-oriented information). However, in so doing, the Examiner ignores what Bhattal is actually disclosing, which is *C* (starting up application computer programs), and [*A* (starting up channels) based on *B* (performance-oriented information)]. Turning “*C*, and [*A* based on *B*]” into “*C* based on *B*,” mischaracterizes and misinterprets what Bhattal discloses.

Conclusion

Applicant has made a diligent effort to place the pending claims in condition for allowance, and request that they so be allowed. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date


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